PREDICT and DTRA Joint Research

SCOPE OF COORDINATION

Surveillance for emerging infectious disease pathogens at animal-human interfaces in Thailand

Goals/Objectives

The goal of this document is to align the scopes of work to avoid duplication of effort for zoonotic disease surveillance and research activities in Thailand currently funded by USAID PREDICT and proposed to be funded by DTRA-CBEP. This document only specifies work that is co-funded by PREDICT and DTRA-CBEP in Ratchaburi and Chonburi provinces, Thailand – sites where costs are being shared for complimentary research and surveillance activities. The research study is to be/has been conducted by the WHO Collaborating Centre for Research and Training on Viral Zoonoses and The Thai Red Cross Emerging Infectious Diseases Centre, Faculty of Medicine, Chulalongkorn University (hereby the 'Recipient'). The scope of work (location and time) and activities that will be funded from each organization are included in the attached table.

Background

Sites in Ratchaburi and Chonburi provinces in Thailand are the focus of ongoing zoonotic disease surveillance activities. Ratchaburi province, west of Thailand, bounded by national parks and bat caves, harbors a number of mammalian species – a known risk factor for zoonotic disease emergence. Betacoronavirus Group C (MERS-CoV group) was found in bat guano collected from this region in 2006. In 2016, WHO Collaborating Centre for Research and Training on Viral Zoonoses and The Thai Red Cross Emerging Infectious Diseases Centre, Faculty of Medicine, Chulalongkorn University conducted a bat surveillance study for MERS-CoV in Ratchaburi, under the support from Thai government (NSTDA-Thai National Science and Technology Development Agency). MERS-like CoV was detected in wrinkle-lipped free-tailed bats (*Chaerephon plicata*) (unpublished). Chonburi province, east of Thailand, has ongoing surveillance and includes sites where Nipah virus was previously identified in Lyle's flying fox. To date no Nipah virus outbreaks have ever been reported. A primary goal of current and proposed research is to better understand the role of bats from these areas in harboring and transmitting emerging infectious diseases (EIDs), including known and novel EID viral pathogens, and to characterize the specific animal-human interfaces.

Resource Sharing

- Recipient shall conduct the research, and manage resources from PREDICT and DTRA separately, to ensure that efforts are not duplicative and are aligned with the attached SOW.
- Recipient shall ensure that all personnel salaries and other supported activities are not funded above a 100% level (by USG and all other funding in aggregate).
- Recipient shall enter all data (site characterization, animal and specimen data, and test results) collected at collaborative sites/events into EIDITH (PREDICT's Emerging Infectious Disease Information Technology Hub).

- Recipient shall share confirmed EIDITH data collected at collaborative sites/events with DTRA and related partners (NSTDA for Ratchaburi and FAO for Chonburi).

SCOPE OF WORK

ACTIVITY	NO. OF ANIMALS	SPECIMEN & FIELD DATA COLLECTION FUNDED BY	SPECIMEN TESTING FUNDED BY		
			NSTDA	PREDICT 2	DTRA
Ratchaburi Province					
1. Bat sampling in Jun 2017	100	DTRA	N/A	Testing for 5 viral family in OS and RS	Testing for 2C-CoV and Nipah in OS and RS
2. Bat sampling in Oct 2017	100	DTRA	N/A	Testing for 5 viral family in OS and RS	Testing for 2C-CoVand Nipah in OS and RS
3. Rodent sampling in Jun 2017	50	DTRA	N/A	Testing for 5 viral family in OS and RS	Testing for 2C-CoV in OS and RS
4. Rodent sampling in Oct 2017	50	DTRA	N/A	Testing for 5 viral family in OS and RS	Testing for 2C-CoV in OS and RS
5. Macaque sampling in Mar 2017	100	DTRA	N/A	Testing for 5 viral family in OS and RS	Testing for 2C-CoV and Herpes B in OS and RS
6. Healthy humans at risk	100	NSTDA	7 Respiratory viruses (Real-time PCR)	Testing for 5 viral family in OS and UR	Testing for 2C and 4 Human-CoVs in OS and UR
Chonburi Province					
7. Bat sampling in Nov 2016	100	PREDICT 2	N/A	Testing for 5 viral families in OS and RS	Testing for Nipah (in OS, BL, UR, pooled urine) and 2C-CoV (in RS, pooled urine) testing
8. Bat sampling in Feb 2017	100	PREDICT 2	N/A	Testing for 5 viral families in OS and RS	Testing for Nipah (in OS, BL, UR, pooled urine) and 2C-CoV (in OS) testing
9. Bat sampling in May 2017	100	DTRA	N/A	Testing for 5 viral families in OS and RS	Testing for Nipah (in OS, BL, UR, pooled urine) and 2C-CoV (in RS) testing
10. Bat pooled urine [3 trips]	200	PREDICT 2 & DTRA	N/A	N/A	Testing for Nipah and 2C-CoV in pooled urine
11. Healthy humans at risk	100	PREDICT 2	N/A	Testing for 5 viral families in OS and UR	Testing for Nipah and 5 Human-CoVs (in OS, UR) testing

Abbreviations: OS – oral swab; RS – rectal swab; BL – Blood; UR – Urine; CoV – coronavirus; MERS – Middle East Respiratory Syndrome; N/A- Not available; NSTDA-Thai National Science and Technology Development Agency